HW-50
EPA Validated Data Summary Report
Dimock Residential Sampling
Sample Date: 3/8/2012

Sample Number	Analyte	Result			Trigger Levels		EPA Primary MCLs		EPA Secondary MCLs		DEP Primary MCLs		DEP Secondary MCLs	
HW50	Anionic Surfactants	0.01	U	mg/L										
HW50	Heterotrophic Plate Count	2.00	J	cfu/1mL										
HW50	Total Coliform Bacteria	1.00	U	cfu/100mL	0.00	cfu/100mL	5.00	%*						
HW50	Ethane	1.20	U	ug/L										
HW50	Ethene	1.10	U	ug/L										
HW50	Methane	0.60	J	ug/L	28,000.00	ug/L								
HW50	2-Butoxyethanol	25.00	U	ug/L										
HW50	2-Methoxyethanol	10.00	U	ug/L	78.00	ug/L								
HW50	Diethylene Glycol	50.00	U	ug/L	8,000.00	ug/L								
HW50	Ethylene glycol	2,000.00	U	ug/L	31,000.00	ug/L								
HW50	Propylene glycol	2,000.00	U	ug/L										
HW50	Tetraethylene glycol	25.00	U	ug/L	8,000.00	ug/L								
HW50	Triethylene glycol	25.00	U	ug/L	8,000.00	ug/L								
HW50	Bromide	0.50	U	mg/L										
HW50	Chloride	6.72		mg/L					250.00	mg/L			250.00	mg/L
HW50	Fluoride	0.10	U	mg/L	0.62	mg/L	4.00	mg/L	2.00	mg/L	2.00	mg/L		
HW50	Sulfate	12.90		mg/L					250.00	mg/L			250.00	mg/L
HW50	Aluminum	30.00	U	ug/L	16,000.00	ug/L			200.00	ug/L			200.00	ug/L
HW50	Antimony	2.00	U	ug/L	6.00	ug/L	6.00	ug/L			6.00	ug/L		
HW50	Arsenic	1.90		ug/L	4.50	ug/L	10.00	ug/L			10.00	ug/L		
HW50	Barium	238.00		ug/L	2,900.00	ug/L	2,000.00	ug/L			2,000.00	ug/L		
HW50	Beryllium	1.00	U	ug/L	16.00	ug/L	4.00	ug/L			4.00	ug/L		
HW50	Boron	50.00	U	ug/L	3,100.00	ug/L								
HW50	Cadmium	1.00	U	ug/L	6.90	ug/L	5.00	ug/L			5.00	ug/L		

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HW50	Calcium	30,200.00		ug/L										
HW50	Chromium	2.00	U	ug/L	3.10	ug/L	100.00	ug/L			100.00	ug/L		
HW50	Cobalt	1.00	U	ug/L	4.70	ug/L								
HW50	Copper	2.00	U	ug/L	620.00	ug/L	1,300.00	ug/L**	1,000.00	ug/L	1,000.00	ug/L***		
HW50	Iron	100.00	U	ug/L	11,000.00	ug/L			300.00	ug/L			300.00	ug/L
HW50	Lead	2.00	U	ug/L	15.00	ug/L	15.00	ug/L**			5.00	ug/L***		
HW50	Lithium	25.00	U	ug/L	31.00	ug/L								
HW50	Magnesium	8,330.00		ug/L										
HW50	Manganese	27.90		ug/L	320.00	ug/L			50.00	ug/L			50.00	ug/L
HW50	Nickel	1.00	U	ug/L	300.00	ug/L								
HW50	Potassium	2,000.00	U	ug/L										
HW50	Selenium	5.00	U	ug/L	78.00	ug/L	50.00	ug/L			50.00	ug/L		
HW50	Silver	1.00	U	ug/L	71.00	ug/L			100.00	ug/L			100.00	ug/L
HW50	Sodium	10,100.00		ug/L	20,000.00	ug/L								
HW50	Strontium	1,020.00		ug/L	9,300.00	ug/L								
HW50	Thallium	1.00	U	ug/L	0.16	ug/L	2.00	ug/L			2.00	ug/L		
HW50	Tin	200.00	UJ	ug/L	9,300.00	ug/L								
HW50	Titanium	200.00	U	ug/L										
HW50	Uranium	1.20	UJ	ug/L	47.00	ug/L	30.00	ug/L			30.00	ug/L		
HW50	Vanadium	5.00	U	ug/L	78.00	ug/L								
HW50	Zinc	2.00	U	ug/L	4,700.00	ug/L			5,000.00	ug/L			5,000.00	ug/L
HW50	Total Dissolved Solids	134.00		mg/L					500.00	mg/L			500.00	mg/L
HW50	Total Suspended Solids	10.00	U	mg/L										
HW50	Acenaphthene	5.00	U	ug/L	400.00	ug/L								
HW50	Acenaphthylene	5.00	U	ug/L										
HW50	Acetophenone	5.00	U	ug/L	1,500.00	ug/L								
HW50	Anthracene	5.00	U	ug/L	1,300.00	ug/L								
HW50	Atrazine	5.00	U	ug/L	26.00	ug/L	3.00	ug/L			3.00	ug/L		
HW50	Benzo(a)anthracene	5.00	U	ug/L	2.90	ug/L								

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HW50	Benzo(a)pyrene	5.00	U	ug/L	0.29	ug/L	0.20 ug/L		0.20 ug/L	
HW50	Biphenyl	5.00	U	ug/L						
HW50	Bromophenyl-4 Phenyl Ether	5.00	U	ug/L						
HW50	Butylbenzyl phthalate	0.03	J	ug/L	1,400.00	ug/L				
HW50	Caprolactam	5.00	U	ug/L	7,700.00	ug/L				
HW50	Carbazole	5.00	U	ug/L						
HW50	Chlorobenzenamine-4	5.00	U	ug/L	3.20	ug/L				
HW50	Chloronaphthalene-2	5.00	U	ug/L	550.00	ug/L				
HW50	Chlorophenol-2	5.00	U	ug/L	71.00	ug/L				
HW50	Chlorophenyl-4 phenyl ether	5.00	U	ug/L						
HW50	Chrysene	5.00	U	ug/L	290.00	ug/L				
HW50	Cresol, parachloro meta-	5.00	U	ug/L						
HW50	Cresol-4,6-dinitro-ortho	10.00	UJ	ug/L						
HW50	Cresol-o	5.00	U	ug/L	720.00	ug/L				
HW50	Cresol-p	5.00	U	ug/L	72.00	ug/L				
HW50	Dibenz(a,h)anthracene	5.00	U	ug/L	0.29	ug/L				
HW50	Dibenzofuran	5.00	U	ug/L						
HW50	Dichlorobenzidine-3,3'	5.00	U	ug/L	11.00	ug/L				
HW50	Dichlorophenol-2,4	5.00	U	ug/L	35.00	ug/L				
HW50	Dimethylphenol, 2,4-	5.00	U	ug/L	270.00	ug/L				
HW50	Dinitrophenol-2,4	40.00	UJ	ug/L	30.00	ug/L				
HW50	Dinitrotoluene-2,4	5.00	U	ug/L						
HW50	Dinitrotoluene-2,6	5.00	U	ug/L						
HW50	Ether, bis(2-chloroethyl)	5.00	U	ug/L	1.20	ug/L				
HW50	Ether-bis(2-chloroisopropyl)	5.00	U	ug/L						
HW50	Fluoranthene	5.00	U	ug/L	630.00	ug/L				
HW50	Fluoranthene benzo(k)	5.00	U	ug/L	29.00	ug/L				
HW50	Fluoranthene-benzo(b)	5.00	U	ug/L	5.60	ug/L				
HW50	Fluorene	5.00	U	ug/L	220.00	ug/L				

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HW50	Hexachlorobenzene	5.00 U ug/L	4.20 ug/L	1.00 ug/L		1.00 ug/L	
HW50	Hexachlorobutadiene	5.00 U ug/L	26.00 ug/L				
HW50	Hexachlorobutadiene	0.50 U ug/L	26.00 ug/L				
HW50	Hexachlorocyclopentadiene	5.00 U ug/L	22.00 ug/L	50.00 ug/L		50.00 ug/L	
HW50	Hexachloroethane	5.00 U ug/L	5.10 ug/L				
HW50	Isophorone	5.00 U ug/L	6,700.00 ug/L				
HW50	Methane, bis(2-chloroethoxy)	5.00 U ug/L	47.00 ug/L				
HW50	Methylnaphthalene-2	5.00 U ug/L	27.00 ug/L				
HW50	Naphthalene	0.50 U ug/L	14.00 ug/L				
HW50	Naphthalene	5.00 U ug/L	14.00 ug/L				
HW50	Nitroaniline, ortho	5.00 U ug/L	150.00 ug/L				
HW50	Nitroaniline-3	5.00 U ug/L					
HW50	Nitrobenzenamine-4	5.00 U ug/L	61.00 ug/L				
HW50	Nitrobenzene	5.00 U ug/L	12.00 ug/L				
HW50	Nitrophenol-2	5.00 U ug/L					
HW50	Nitrophenol-4	10.00 U ug/L					
HW50	Nitrosodimethylamine-n	5.00 U ug/L	0.04 ug/L				
HW50	Nitrosodiphenylamine-n	5.00 U ug/L	1,000.00 ug/L				
HW50	Pentachlorophenol	5.00 U ug/L	17.00 ug/L	1.00 ug/L		1.00 ug/L	
HW50	Perylene-benzo(ghi)	5.00 U ug/L					
HW50	Phenanthrene	5.00 U ug/L					
HW50	Phenol	5.00 U ug/L	4,500.00 ug/L				
HW50	Phthalate, bis(2-ethylhexyl) (DEHP)	5.00 U ug/L	7.10 ug/L	6.00 ug/L		6.00 ug/L	
HW50	Phthalate, Dimethyl	5.00 U ug/L	1,400.00 ug/L				
HW50	Phthalate, di-n-butyl-	5.00 U ug/L	670.00 ug/L				
HW50	Phthalate, di-n-octyl	5.00 U ug/L					
HW50	Phthalate-diethyl	5.00 U ug/L	11,000.00 ug/L				
HW50	Propylamine,n-nitroso di-n-	5.00 U ug/L	0.93 ug/L				
HW50	Pyrene	5.00 U ug/L	87.00 ug/L				

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HW50	Pyrene-indeno(1,2,3-cd)	5.00 U ug/L	3.00 ug/L				
HW50	Tetrachlorobenzene, 1,2,4,5-	5.00 U ug/L	1.20 ug/L				
HW50	Tetrachlorophenol, 2,3,4,6-	5.00 U ug/L	170.00 ug/L				
HW50	Trichlorophenol-2,4,5	5.00 U ug/L	890.00 ug/L				
HW50	Trichlorophenol-2,4,6	5.00 U ug/L	9.04 ug/L				
HW50	TPH - Gasoline Range Organics	50.00 U ug/L					
HW50	1,2-Dibromo-3-chloropropane (DBCP)	0.50 U ug/L	0.03 ug/L	0.20 ug/L		0.20 ug/L	
HW50	4-Methyl-2-pentanone	2.00 U ug/L	1,000.00 ug/L				
HW50	Acetone	2.00 U ug/L					
HW50	Benzene	0.50 U ug/L		5.00 ug/L		5.00 ug/L	
HW50	Bromobenzene	0.50 U ug/L					
HW50	Bromoform	0.50 U ug/L		80.00 ug/L		80.00 ug/L	
HW50	Butylbenzene	0.50 U ug/L					
HW50	Butylbenzene, sec-	0.50 U ug/L					
HW50	Butylbenzene, tert-	0.50 U ug/L					
HW50	Carbon disulfide	0.50 U ug/L					
HW50	Carbon Tetrachloride	0.50 U ug/L		5.00 ug/L		5.00 ug/L	
HW50	Chlorobenzene	0.50 U ug/L		100.00 ug/L			
HW50	Chlorobromomethane	0.50 U ug/L					
HW50	Chloroethane	0.50 U ug/L					
HW50	Chloroform	0.50 U ug/L		80.00 ug/L		80.00 ug/L	
HW50	Chlorotoluene	0.50 U ug/L	180.00 ug/L				
HW50	Chlorotoluene-p	0.50 U ug/L	190.00 ug/L				
HW50	Cyclohexane	0.50 U ug/L					
HW50	Dibromochloromethane	0.50 U ug/L		80.00 ug/L		80.00 ug/L	
HW50	Dibromoethane-1,2	0.50 U ug/L	0.65 ug/L	0.05 ug/L		0.05 ug/L	
HW50	Dibromomethane	0.50 U ug/L					
HW50	Dichlorobenzene-1,2	0.50 U ug/L	280.00 ug/L	600.00 ug/L		600.00 ug/L	
HW50	Dichlorobenzene-1,3	0.50 U ug/L					

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HW50	Dichlorobenzene-1,4	0.50 U	ug/L	42.00 ug/L	75.00 ug/L		75.00 ug/L	
HW50	Dichlorobromomethane	0.50 U	ug/L		80.00 ug/L		80.00 ug/L	
HW50	Dichlorodifluoromethane	0.50 U	ug/L					
HW50	Dichloroethane-1,1	0.50 U	ug/L	240.00 ug/L				
HW50	Dichloroethane-1,2	0.50 U	ug/L	15.00 ug/L	5.00 ug/L		5.00 ug/L	
HW50	Dichloroethene-1,2 trans	0.50 U	ug/L		100.00 ug/L		100.00 ug/L	
HW50	Dichloroethylene-1,1	0.50 U	ug/L		7.00 ug/L		7.00 ug/L	
HW50	Dichloroethylene-1,2 cis	0.50 U	ug/L		70.00 ug/L		70.00 ug/L	
HW50	Dichloropropane, 1,2-	0.50 U	ug/L	38.00 ug/L	5.00 ug/L		5.00 ug/L	
HW50	Dichloropropane, 1,3-	0.50 U	ug/L	290.00 ug/L				
HW50	Dichloropropane, 2,2-	0.50 U	ug/L					
HW50	Dichloropropene, 1,1-	0.50 U	ug/L					
HW50	Dichloropropene, 1,3 cis-	0.50 U	ug/L					
HW50	Dichloropropene, 1,3 trans-	0.50 U	ug/L					
HW50	Ethylbenzene	0.50 U	ug/L		700.00 ug/L		700.00 ug/L	
HW50	Freon 113	0.50 U	ug/L					
HW50	Hexanone, 2-	2.00 U	ug/L	34.00 ug/L				
HW50	Isopropylbenzene	0.50 U	ug/L					
HW50	Isopropylbenzene-4,methyl-1	0.50 U	ug/L					
HW50	m,p-Xylene	1.00 U	ug/L		10,000.00 ug/L		10,000.00 ug/L	
HW50	Methyl acetate	0.50 U	ug/L					
HW50	Methyl bromide	0.50 U	ug/L					
HW50	Methyl chloride	0.50 U	ug/L					
HW50	Methyl cyclohexane	0.50 U	ug/L					
HW50	Methyl ethyl ketone	2.00 U	ug/L	4,900.00 ug/L				
HW50	Methyl tertiary butyl ether (MTBE)	0.50 U	ug/L					
HW50	Methylene chloride	0.50 U	ug/L		5.00 ug/L		5.00 ug/L	
HW50	Propylbenzene-n	0.50 U	ug/L					
HW50	Styrene	1.00 U	ug/L		100.00 ug/L		100.00 ug/L	

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HW50	Tetrachloroethane, 1,1,1,2-	0.50 U ug/L	50.00 ug/L				
HW50	Tetrachloroethane, 1,1,2,2-	0.50 U ug/L	6.60 ug/L				
HW50	Tetrachloroethylene	0.50 U ug/L		5.00 ug/L		5.00 ug/L	
HW50	Toluene	0.50 U ug/L		1,000.00 ug/L		1,000.00 ug/L	
HW50	Trichlorobenzene-1,2,3	0.50 U ug/L	5.20 ug/L				
HW50	Trichlorobenzene-1,2,4	0.50 U ug/L	5.20 ug/L	70.00 ug/L		70.00 ug/L	
HW50	Trichloroethane-1,1,1	0.50 U ug/L	7,500.00 ug/L	200.00 ug/L		200.00 ug/L	
HW50	Trichloroethane-1,1,2	0.50 U ug/L	0.41 ug/L	5.00 ug/L		5.00 ug/L	
HW50	Trichloroethylene	0.50 U ug/L		5.00 ug/L		5.00 ug/L	
HW50	Trichlorofluoromethane	0.50 U ug/L					
HW50	Trichloropropane-1,2,3	0.50 U ug/L	0.07 ug/L				
HW50	Trimethylbenzene-1,2,4	0.50 U ug/L	15.00 ug/L				
HW50	Trimethylbenzene-1,3,5	0.50 U ug/L	87.00 ug/L				
HW50	Vinyl acetate	0.50 U ug/L					
HW50	Vinyl chloride	0.50 U ug/L		2.00 ug/L		2.00 ug/L	
HW50	Xylene-o	1.00 U ug/L		10,000.00 ug/L		10,000.00 ug/L	
HW50	Nitrogen, Nitrite + Nitrate	0.64 mg/L		10.00 mg/L		10.00 mg/L	
HW50	Total Nitrogen	1.00 U mg/L					

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Sample Number – Code that is used to identify the particular sample. See additional information below:

HW## – Identifies the sample location and indicates that it was collected at well head or closest point to the well head.
F – Indicates that the sample was filtered following collection. The purpose of filtering the sample is to remove any particulates in order to find what metals are actually dissolved in the water sample.
Z – Identifies a duplicate sample. Duplicate samples are collected for every ten samples collected to test the reproducibility of sampling and analytical procedures.
P – Indicates that the sample was collected at the kitchen tap. In some cases this may be following any treatment that the residence may have.
A/B – Designates which residence the sample was collected for sample locations with multiple residences using the same water source (may be a well or a spring).
RO – Indicated that the sample was collected from a residence containing a reverse osmosis treatment system.
N – Designates that the sample was collected from the new well for locations with multiple wells.

Analyte – General term for a substance in the sample. The lab does testing to find specific analytes, or substance in the water sample. The report lists each analyte that the lab tested for and what amounts were found.

TPH - Total Petroleum Hydrocarbons

Result and Units – identifies the actual result for the particular analyte and the measurement used for the particular type of sample. The results may include the following units for the various water sample analyses:

µg /L – Micrograms per liter (abbreviated as µg /L) measurements of the mass of the substance per liter of water. This measurement is commonly known as parts per billion or ppb. Drinking water results are usually reported in µg /L.
mg/L – Milligrams per liter (abbreviated as mg/L) measurements of the mass of the substance per liter of water. This measurement is commonly known as parts per million or ppm.
cfu/100 mL – Total Coliform Bacteria results are reported as colony forming units (cfu) per milliliters of water. Coliform bacteria is not a health threat in itself; it is used to indicate whether other potentially harmful bacteria may be present.
cfu/1mL – Heterotrophic Plate Count Bacteria (HPC) are reported as colony forming units (cfu) per milliliter of water. HPC has no health effects; it is an analytic method used to measure the variety of bacteria that are common in water. The lower the concentration of bacteria in drinking water, the better maintained the water system is.
Absent or Present – Fecal Coliform Bacteria are reported as either being Absent or Present. Fecal Coliform Bacteria are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Disease-causing microbes (pathogens) in these wastes can cause diarrhea, cramps, nausea, headaches,

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Trigger Level – established for this project, the trigger levels are based on risk-based screening levels and/or standards for public water supplies. A yellow highlighted result represents an analytical result greater than the established trigger level. Results exceeding a trigger level are referred to an EPA toxicologist for further review.
EPA Primary MCLs – the primary maximum contaminant levels (MCLs) are legally enforceable standards established under the Safe Drinking Water Act to protect public health by limiting the levels of contaminants in public drinking water systems. The MCL is the amount of an analyte (substance) that can be present in a water sample that the government considers acceptable to drink. EPA considers the MCLs when evaluating results from residential drinking water wells.
EPA Secondary MCLs - secondary MCLs are non-enforceable standards regulating contaminants that may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water. EPA recommends secondary standards to public water systems, but does not require systems to comply. However, states may choose to adopt them as enforceable standards.
DEP MCLs (Primary and Secondary) – Chapter 109, Pennsylvania Safe Drinking Water Regulations, defines MCL as the maximum permissible level of a contaminant in water which is delivered to a user of a public water system, and includes the primary and secondary MCLs established under the Federal Safe Drinking Water Act, and MCLs adopted under the act.

* No more than 5.0% samples total coliform-positive in a month. (For water systems that collect fewer than 40 routine samples per month, no more than one sample can be total coliform-positive per month.) Every sample that has total coliform must be analyzed for either fecal coliforms or E. coli if two consecutive TC-positive samples, and one is also positive for E.coli fecal coliforms, system has an acute MCL violation.

** EPA has not established an MCL for lead or copper. Lead and copper are regulated by a Treatment Technique that requires public drinking water systems to control the corrosiveness of their water. If more than 10% of tap water samples exceed the action level, water system must take additional steps. For lead, the action level is 15 ug/L, and for copper is 1,300 ug/L.

*** The DEP Primary MCLs for lead (5 ug/L) and copper (1,000 ug/L) are applicable only to bottled, vended, retail and bulk water hauling systems, otherwise the DEP uses the federal action levels for lead (15 ug/L), and for copper (1,300 ug/L).

Validation Result Qualifiers - EPA performs a quality check on the lab results. After this quality check, EPA may mark the measurement of certain analytes with a qualifier to give additional information about the measurement. This information can apply to 1) how certain EPA is that the lab detected the analyte and 2) how certain EPA is of the measurement of the analyte once detected. If there is no qualifier by the result, the detection and measurement of the analyte are certain

U – Indicates that the analyte was not detected. If there is a number next to the U, this number is the amount of analyte that would have to be present to be detected by the lab given the particular method and/or instrumentation.
J – This means that the analyte was detected, but the value of the result is an estimate.
UJ - The U before the J means that the analyte was not detected in the sample, but this result may be inaccurate. Some analyte may be present.
R – Indicates that the data has been rejected. For glycol analyses, data with detected concentrations above the Method Detection Limit (MDL) and less than the Reporting Limit (RL) were rejected due to the laboratory not using a second column and/or gas chromatography with mass spectrometry to confirm the identity of the compound listed. For Heterotrophic Plate Count analysis, data were rejected if the laboratory did not run a method blank (i.e. sterility control) for each series of samples plated to determine whether the test samples could have been contaminated during analysis. For semivolatile organic compound analysis, non-detect data have been rejected due to low recoveries of required method quality control checks.
MDL – Is the minimum concentration of a substance that can be measured and reported with 99-percent confidence that the concentration of the substance is greater than zero.
RL – Is the lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions, typically set at the lowest standard in the calibration curve